

## New Toshiba Global Commerce Solutions SureMark fiscal printer Model 2NF available for Turkey

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### At a glance

Highlights of new Toshiba® Global Commerce Solutions SureMark™ dual-station fiscal printer Model 2NF features:

- Faster, quiet, dual-station (thermal receipt plus impact document) printing, making transactions quicker and improving in-store customer satisfaction
- Same small footprint, improved performance, and many new usability features
- Secure fiscal (including fiscal logic and fiscal memory) and physical security features that are legal requirements in Turkey
- Simplified paper loading, improving usability and reducing training expenses
- Both Fiscal memory (32 MB) and Electronic Journal memory (4 GB) come installed in the printer on initial purchase and are not customer accessible; these are also available as chargeable features that can be replaced by authorized service personnel in the field
- Two choices of cover colors - pearl white or iron gray
- Standard communication interfaces for connection to POS systems include RS-232, powered-USB, and standard USB connections with auto-sensing
- Powered-USB port (+12V) for attaching customer display, cash drawer port and Ethernet port for communicating with government agencies
- Single printing platform worldwide for international retailers
- Supported by Remote Management Agent (RMA)

### Overview

The Toshiba point-of-sale (POS) printer product line is being extended to satisfy new fiscal laws and customer requirements for a dual-station (thermal receipt plus impact document stations) thermal printer in Turkey. SureMark clients know that they can rely upon the dependability, high performance, and high function offered by SureMark models. SureMark POS printers provide retail POS users with significant improvements in printing speed, quiet operation, open interfaces, and exceptional usability - all of which enable retailers to attract and retain customers, as well as streamline their operations.

Available in either pearl white or iron gray cover color, the new dual-station fiscal printer Model 2NF is based on the nonfiscal Model 2NR printer, and replaces current dual-station fiscal printers. It includes a thermal customer receipt station plus 16 GB Write-Once Read-Many (WORM) Electronic Journal (not customer accessible) as standard features. The Electronic Journal capability is especially noteworthy since it enables the retailer to efficiently manage journal data, with reduced media and journal storage requirements. The new model was designed to integrate with

Toshiba systems, as well as competitive systems using standard (auto-sensing) RS-232, USB (signal plus power), and standard USB interfaces.

Model 2NF with Turkey firmware specify feature number 4904 will conform with legal requirements for fiscal printing in Turkey, upon completion of homologation.

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## Key prerequisites

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Model 2NF attaches to Toshiba SurePOS™ 100, 300, 500, and 700 Series, as well as TCxWave™ via standard RS-232, powered USB, and standard USB interfaces. Communication interfaces for connecting to POS systems are auto-sensing. An Ethernet interface is provided for diagnostics and communication with tax authorities. An optional, special power-only cable may be used to connect the printer's power connector to a USB plus-power port on a POS System unit. Connection to non-Toshiba systems and PCs generally requires an optional power brick.

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## Planned availability date

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October 24, 2014 (pending homologation)

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## Description

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These quiet, high-quality, dual-station thermal fiscal receipt printers set a new standard for speed, delivering up to 80 lines per second (lps) maximum print speed. Printing speed may be impacted by government-required printing restrictions when printing fiscal receipts.

### One global solution

International and global retailers can use SureMark printers as a single worldwide printer platform to improve service and support efficiency. These printers are available in a wide range of models, so multinational retailers can select the right model for each geography in which they do business.

Clients in Turkey can adapt existing applications that were originally written for other 4610 fiscal models for use with the new Model 2NF.

The 4610-2NF Fiscal Printer is comprised of two basic parts: A Printer Mechanism and a Fiscal Assembly.

- The Printer Mechanism is a subset of the 4610-2NR dual-station thermal customer receipt (CR), and impact document insert (DI) printer. This Printer Assembly provides the basic printing component of the solution.
- The Fiscal Assembly replaces the 4610-2NR interface card to provide the fiscal-specific functionality and the host system interface. The Fiscal Assembly is composed of:
  - Fiscal Enclosure, which along with the printer covers and required fasteners and seals, provides the secure enclosure and frame for mounting other fiscal components.
  - Fiscal Logic, which provides the processing platform for all fiscal-unique functions, drives the Printer Assembly and provides the host interface.
  - A Fiscal Memory (FM), which is the storage location for all required daily fiscal data, other than electronic journal.
  - The Fiscal Electronic Journal (EJ) provides storage for EJ data as required by fiscal law.
  - Fiscal Firmware is ported from the existing 4610-1NF fiscal printer. It is modified to address differences in the fiscal logic, including the addition of the DI functions. Country-specific fiscal functions will also be ported from the

corresponding 1NF printer, or from a Kxx fiscal printer, if a 1NF printer does not exist for the target country. Using logic in the Fiscal Assembly, the Fiscal Firmware communicates with the Host System, verifies print data, permanently stores print data in the EJ, calculates and permanently stores sales and tax totals in the FM, and produces tax and journal reports. It also communicates to the Printer Logic and Printer Firmware to print, and so on.

## **Thermal printing**

The thermal print head is an in-line type with 576 heating elements spaced at 8 dots per mm (203 dots per inch). No scheduled maintenance is required. Thermal printing occurs by placing a heating element against a thermally sensitive paper and by energizing the elements. Thermal printers print dot rows horizontally across the page, with 576 dots making up a single dot row across the paper. Printing continues row by row until the entire character is formed. Color printing is accomplished by applying differing levels of heat to the color thermal paper, yielding different colors for different paper compounds activated.

The printer is protected from overheating conditions through a duty cycle algorithm which slows printing after a preset thermal limit is reached based upon print head usage and motor usage. Normal text will print at full rate speed for a fixed time depending on other actions (pauses, paper cuts, and so on), whereas a very dense graphic pattern may cause the printer to reduce print speed. The 4610 prints the customer receipt using the thermal print head.

The Toshiba 4610 Point of Sale Printers support the following resident barcodes via datastream commands:

- UPC A/E
- JAN 8
- EAN 8
- JAN 13
- EAN 13
- Code 39
- ITF
- Code 93
- Code 128
- Codabar
- PDF-417
- QR

## **Memory units**

Memory will be available for Fixed messages and Logos.

Fixed messages are those that are printed on each receipt in a POS environment. Storing these messages in the flash memory greatly reduces the data transmission time to the printer and processing time of that data by the microprocessor. This is also true of graphics or APA messages, which require a significant amount of transmission and processing time. Flash memory can also be used as a storage place for customer data.

## **Communications interfaces**

System unit to printer communication methods consists of the following interfaces:

RS232 at 115.2 baud is supported. The printer is wired as a DCE (Data Communications Equipment) device and requires a separate power supply or power-only USB cable.

The printer can support the following parameters:

- Start bit: 1 bit
- Stop bit: 1 bit
- Parity: None
- Baud rates: Between 9.6 K and 115.2 K (selectable using off-line configuration. Default is 115.2 K (different from Tx6/7 printers)
- Flow control protocol: DTR/DSR or XON/XOFF protocols (selectable using off-line configuration)

## USB

External communications, 2.0 Full Speed (12 Mbps data rate) - The printer will have the ability to draw power from either a brick (24V) or system unit (24V). Each card supports USB, powered USB, and RS322 interfaces, with autosensing. In addition to the connectors for the communication interface, the cards also contain connectors for the following:

- Power supply connector
- Cash drawer
  - Ethernet
  - Powered USB Display port

## Cash drawer port

The printer has a single cash drawer connector. This connector can drive a single cash drawer. This line also provides a status line to detect when the cash drawer is open. Drive voltage for the cash drawer solenoid is 24 V dc at a current of no greater than 1 ampere. The cash drawer cannot be activated while the printer is printing. Connector pins are assigned as described in the Support Knowledgebase at

<http://www.toshibacommerce.com/support>

## Paper low sensor

Low paper sensing informs both the operator of the printer and the system that the paper supply will soon require replenishment. An amber LED visible to the operator will blink when a low paper condition exists. Low paper sensing using 2.0 mil paper should have the following characteristics:

- A low paper condition should be adjustable 2 feet to 12 feet (0.6 meters to 3.6 meters) from the end of the roll.
- Adjustment of the sense level must be done either by electronic communication using driver or by following the menus in off-line-test mode.
- A default value should sense low paper at 6 feet (1.8 meters) with 0.002 in. thick paper on a 0.86 in. (22 mm) diameter core.
- The sense level should be repeatable to within +/- 20 inches (+/-0.5 meters). This applies to a single printer as well as from printer to printer.
- When the printer reaches the paper out condition, the operator is given easy access to the empty paper core when the cover is opened.
- The supported angles for proper low paper support are described in detail in the *User Guide*.

## External LED indicators

Two LED indicators will be visible on the top cover of Model 2NF. They signify the following:

Function	Type	Location	State
Power/Status	Bi-color LED:	Top Cover	Off - No power available
	Green/ Amber		Amber Blip - Off-line Test mode

			Amber blink - Printer Not Ready (during power-on phase or intervention required if beyond power-on phase)
	Green on		Operational (ready to print or printing)
Paper Status	Amber LED	Top Cover Off - Paper Good	
			Blink - Paper Low Solid On - Paper Out
Ethernet Good Link/	Green LED	Adjacent to the Ethernet receptacle on the tailgate	Off - No Link On - Good Link Blinking - Network activity
Ethernet 10/100Mb	Green LED	Adjacent to the Ethernet receptacle on the tailgate	Off - 10 Mb mode On - 100Mb mode

- Receipt Paper Status (located on the top cover closest to rear of printer):
  - Amber LED ON indicates Paper out
  - Amber LED OFF indicates Paper Good
  - Amber LED Blinking indicates Paper Low
- Thermal Station Status - Bicolor Green/Amber:
  - Green LED ON indicates receipt station Ready
  - Amber LED Blinking indicates receipt station Not Ready
  - Amber LED Blip indicates Off-line Testing
  - LED OFF indicates power is off
- Ethernet Good Link/Activity (adjacent to the Ethernet receptacle on the printer tailgate)
  - Green LED OFF indicates No Link
  - Green LED ON indicates Good Link
  - Green LED Blinking indicates Network activity
- Ethernet 10/100Mb (adjacent to the Ethernet receptacle on the printer tailgate)
  - Green LED OFF indicates 10Mb mode
  - Green LED ON indicates 100Mb mode
- Terms defined:
  - Blink = 0.5 sec on/ 0.5 sec off
  - Blip = 0.250 sec on/1.75 sec off

### Control buttons

- Two blue triangle-shaped buttons located on the top of the printer serve multiple functions.
- **Paper feed - Thermal receipt station:** Spring-loaded pushbutton; located on top cover; feeds receipt paper.
- **Paper feed - Document insert station:** Spring-loaded pushbutton; located on top cover; feeds paper in document. insert station
- **Power reset button:** Momentary pushbutton; white; located under top cover to prevent accidental activation; toggles state between power **off** and **on** . Default

state is **on** when power is applied to the printer. It is useful for printer diagnosis and repair without taking terminals down.

Several printer self-tests can be accessed and run in the off-line mode. The off-line mode is entered by cycling the white power reset switch (located under the top cover) from off to on closing the top cover and then pressing and holding the receipt station feed button until a click is heard and the front LED indicator blinks. At that time, the first off-line self-test menu will advance with further instructions.

- **Cover open:** Spring-loaded pushbutton; blue; located on center of top cover; opens top cover for paper roll loading in the receipt station.

## Power requirements

The 4610 printer requires the following power to operate:

- 24 V dc +/-10% at 3.125 amps

**Note:** Continuous current. Instantaneous current depends on number of dots utilized across a print line average idle power consumption is less than 5 watts.

## Product life specifications

	Thermal station
Print Head Life	150 Km
Printer Mechanism Life	36 M lines
Cutter Life	1.5 M Cuts

## Usability features

### Push Button Receipt Cover Opening

Allows the customer to easily open the receipt cover by simply pressing the cover open button.

### Drop and Load Paper Loading

Simplifies paper loading.

### Tear Bar

Allows the user of the printer to easily remove a small portion of paper for convenient note taking and provides easy removal of the initial portion of a new paper roll that may be unusable because of outer layer damage or the presence of glue.

### Programmable Low Paper Sensor Adjustment

The low paper sensing system of the 4610 Model 2NF has superior accuracy and can be adjusted en masse when in native mode using a command from the host controller. Most competitive printers have a manually adjusted mechanism that requires the customer to touch each printer every time a new paper supplier requires adjustment of the low paper sensing threshold. Significant paper can be saved because most would not bother to readjust the printer and would just live with excessive paper. Also, if the new paper supply would result in less paper being left in the printer than would be ideal, customer satisfaction is jeopardized because of the increased possibility that paper might run out in the middle of a receipt. Printer installation is also simplified.

### **Automatic Cutter Retraction when Cover Opens**

If for any reason the cutter would jam in the cut position, the cutter blade would prevent the cover from opening. The cover sensor switched before the blade can restrict the cover from opening so the blade automatically retracts. Most situations that would cause a blade jam are relieved by opening the cover.

### **Brightness of LED Indicators is Enhanced**

LED brightness has been enhanced. This allows viewing the condition of the printer from a distance of up to six feet.

### **Power Reset Button**

A printer power reset button is provided to allow the power to the printer to be removed without having to remove power to the entire lane which may require a system reboot. This is useful in cases where the user of the printer does not have the authority to remove power from the printer.

### **Quiet Operation**

Cutting and receipt printing are quieter than on previous 4610 printers. A dedicated cutter motor and removal of the previous clutch cutter drive significantly improves the sound of the cutter. New design of the paper feed motor control timings improves the sound of the receipt paper feed especially if frequent stops and starts are part of the printing process.

### **Thermal Print Head Adjustment Eliminated**

The thermal print head is replaced without the need for adjustment.

### **Snap-Together Design**

Many parts snap together and require no tools to remove and replace.

### **Audible Alarm**

A user-programmable audible alarm can be sounded when various events happen. For example, the printer can alert users when receipt printing is completed.

### **Systems Management Features**

Listed below are the sensors that have been designed into 4610 Model 2NF. The potential of the sensor is described.

#### **Cutter Complete Sensor**

This sensor provides a means to calculate the time to complete a cut while considering the position of the cutter blade and its potential to interfere with paper feeding. A long time to complete a cut can indicate a failing cutter. Repeated manual intervention to reset a cutter blade that restricts the paper path indicates a problem which may initiate a repair action.

#### **Receipt Cover Sensor**

Replacing paper is the primary reason to open the paper access cover. Unexpected openings or frequent cover openings can be an indicator that the printer needs service.

#### **Paper Out Sensor**

Paper out sensor reports that the printer is unusable. Paper should be dispatched and loaded into the printer. This could prevent a user of the printer from initializing a lane or starting to check out a customer only to discover that there is no paper in the printer.

## **Low Paper Sensor**

Low paper sensing allows paper to be dispatched to the user when the paper low LED on the top cover illuminates, before the indicating that there is a need to replenish the paper. Remote Management Agent can monitor printers for paper low conditions and notify store personnel to take replacement rolls to the point-of-sale.

## **Thermal Print Head Health Sensor**

Model 2NF is supported by a diagnostics program that can initiate the sensing of each print head element to verify proper operation.

## **Cutter Health Sensor**

An electrical current passes through the cutter blades during the process of a successful cut. The most common cutter failure causes the media to fold between the blades, preventing the cut. This folding interrupts this current. When this interruption is compared with the cutter complete sensor, the fault condition can be sensed. This provides the opportunity to detect a failing cutter before the user is aware that there is a problem. A preventative repair action can be initiated.

## **Usage and Event Counters**

Multiple event counters are built into the printer firmware totaling the number of cover openings, lines printed, and so on.

## **Performance features**

- 80 lps receipt printing and faster paper autocutting: Speeds lane throughput
- Four-inch roll of paper: Increases the interval between paper replenishments. Using 102 mm (4-inch) rolls of thinner receipt media can reduce receipt roll change intervals by 45% when compared to replacement intervals for thicker receipt media in 80 mm (3.1-inch) rolls.
- 1.5 million cutter life: Provides over seven years of life for a higher usage customer.
- 150 km receipt printer life: Provides over seven years of life for a high usage customer.

## **Tear Bar**

Allows the user of the printer to easily remove a small portion of paper for convenient note taking and provides easy removal to the initial portion of a new paper roll that may be unusable because of outer layer damage or the presence of glue.

## **Accurate Low Paper Sensing**

Minimizes paper waste.

## **Cover Spring**

This spring forces the cover open when the cover open button is pressed. This spring provides a soft and reliable open stop for the cover.

## **Thermal Print Head Adjustment Eliminated**

Variations in adjustments made during manufacture and repair are eliminated. Also, any possibility of the adjustment changing during printer operation is eliminated.

## **Paper Path**

There is a shorter paper path between the receipt print line and the cutter than on legacy printers. One of the best ways to increase the jam resistance of the paper feed in a printer is to reduce the length of paper between the paper feed roller and the cutter than on Legacy printers. During printing and paper feeding, paper is being pushed in this area, and the paper can easily buckle and jam. The length of the



receipt between the paper feed and cutter on 4610 Models 2NF is 9 mm whereas this same dimension on 4610 legacy models is 16 mm. As a result, 4610 2NF has far greater jam resistance than previous 4610s.

It must be noted that this design change may cause some application programs to change. For applications that print the header of the next receipt below the cut of the current receipt, the cut may be too close to the top of the header or may in some cases cut through the print of the next header. This is a mechanically determined dimension and can only be corrected by changing the application program.

### **Improved Debris Resistance**

The logic card is vertically mounted and the interface card which is horizontally mounted has a debris resistant cover.

### **CR Paper Switch is Replaced with an Optical Sensor**

The adjustable mechanical switch paper sensor is replaced with a nonadjustable optical switch. This eliminates adjustment and ensures more reliable operation.

### **No External Vents**

This improves spill resistance and reduces the noise of the printer.

### **Environmental features**

Extending Toshiba's commitment to eco-friendliness, this new 4610 printer minimizes landfill waste and carbon emissions by using packaging materials that consist mostly of recycled materials. All packaging materials and most of the materials used to manufacture the printer are recyclable. Additionally, these printers are designed to print thinner paper receipt media, which offers a very green alternative to thicker paper receipt media.

### **Stand-by Power**

Stand-by power consumption is less than 5 watts.

To assure ease of installation and serviceability in non-Toshiba industry standard racks, review the installation planning information for any product-specific installation requirements.

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## **Product number**

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Description	Machine type	Model	Feature
Dual-Station Thermal/Impact Printer For Turkey, Pearl white or Iron gray color	4610	2NF	
SPECIFY FEATURES:			
Pearl white color			2918
Iron gray color			2921
Starter paper roll			0720
Fiscal logic - Turkey			4904
Customer-provided cables and power adapters			9600
SPECIAL FEATURES:			
Fiscal memory (32 MB) plus Fiscal EJ			2225
Fiscal EJ (4 GB)			2230
VFD Display 1 sided USB Pearl/Storm			5960
VFD Display 1 sided USB Iron			5961
VFD Display 2 sided USB Pearl/Storm			5955
VFD Display 2 sided USB Iron			5700

3" Pole Extension Post (iron)	5651
3" Pole Extension Post (storm)	5650
Power Supply	4930
USB to RS232 adapter	5180
Ethernet Cable 4.3m	8998
Powered USB Display cable 3.8m	5570
Powered USB Display cable 1.8m	5572
Powered USB Display cable 0.8m	5575
USB Power-only 4610-2.0m	3912
Powered USB Cable w/Compact Conn 2.0 M	6080
Powered USB Cable w/Compact Conn 4.0 M	6081
Non-Powered USB Cable w/Compact Conn 2.0 M	6082
Non-Powered USB Cable w/Compact Conn 4.0 M	6083
RS232 Cable, 2m length (RJ45)	4938
RS232 Cable, 4m length (RJ45)	4939
4610 Printer RJ11 to SDL Cash Dr Cable 0.5m	6097
4610 Printer RJ11 to SDL Cash Dr Cable 3.8m	3387

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## Publications

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No publications are shipped with the announced products.

Drivers for the appropriate POS subsystem can be downloaded from the Retail Store Systems website

<http://www.toshibacommerce.com/support>

Title	Form number
SureMark 4610 Printer - User's Guide for 4610	G362-0617-00
2NF Fiscal Printer	
Hardware Service Manual for the 4610 2NF Fiscal Printer	G362-0618-00

The Toshiba 4610 SureMark Fiscal Printer - Turkey - Models 2NF (Dual-Station) - RS-232 / USB - Programming Guide Supplement is available from your Toshiba Sales representative.

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## Services

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### Global Technology Services®

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Toshiba services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an on-demand business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for Toshiba and many non-Toshiba offerings. Toshiba is your one-stop shop for IT support needs.

For details on available services, contact your Toshiba representative or visit

<http://www.toshibacommerce.com/services>

For details on available Toshiba Business Continuity and Recovery Services, contact your Toshiba representative or visit

<http://www.ibm.com/services/continuity>

For details on education offerings related to specific products, visit

Select your country, and then select the product as the category.

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## Technical information

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### Specified operating environment

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#### **Physical specifications**

##### *EMC Conformance*

- FCC Part 15 Class A
- EMI - EU: CISPR 22: 2005 + A1:2005 + A2: 2006 Radiated Class A and Conducted Class B (EN55022:2006+A1:2007)

##### *Montoya Standard Fiscal Printer Highlights*

Attribute	Specification
Printer Mechanism	-- 4610-2NR printer: non-MICR, iron gray -- 4610-2NR printer: non-MICR, pearl white All with a unique iron gray only "skirt", no interface card, with standard printer
Fiscal Assembly	Assembly that replaces the 2NR interface assembly. It contains the fiscal processor/ interface card, the fiscal memory, and EJ - with a tamper-evident method for securing the fiscal assembly to the printer skirt and base.
Electronic Journal	4 GB - will hold a minimum of 7 years of journal data, under normal operation. Data retention is 20 years.
Fiscal Memory Size	32 MB - large enough to meet Turkey's requirement of storing cumulative totals and tax totals after every transaction. Data retention is 20 years.
Power	Three options, selectable by the customer at ordering at ordering time, via Feature Codes:  1. Standard 4610 Power Adapter:  -- Feature Code: 4930 -- 110/220 VAC Input -- +24 VDC Output -- 75 W -- AC line cord is automatically selected at order time, based on ordering country.  2. USB "Power-Only" Cable:  -- Feature Code: 3912 -- Only one length will be made available: 2.00 m -- Host-supplied power from a POS terminal powered-USB port -- +24 VDC Output -- Does NOT include USB communication  3. USB Power-Plus Cable: -- Two lengths will be made available: -- 2.00 m Feature Code: 6080 -- 4.00 m Feature Code: 6081 -- Host-supplied power from the powered-USB port -- +24 VDC Output -- DOES include USB communication

If the client chooses either options 2 or 3, the power adapter will be made available for ordering as an MES, if required to satisfy any "off-line" report generation requirements.

- I/O Ports:
- Powered USB device port (2x4 pins, +24 VDC input) for POS Terminal communication and/or for government on-site audit. Hot pluggable
    - 2.00 m Cable Feature Code: 6080
    - 4.00 m Cable Feature Code: 6081
  - RS-232 port (8-pin "RJ45" connector) for POS terminal communication and/or for government on-site audit. Hot pluggable
    - 2.00 m Cable Feature Code: 4938
    - 2.00 m Cable Feature Code: 4939
  - Standard +24V cash drawer port for attachment of one cash drawer, not two. Hot pluggable
    - 0.5m RJ11 to SDL Cash Dr Cable Feature Code: 6097
    - 3.8m RJ11 to SDL Cash Dr Cable Feature Code: 3387
  - Ethernet port for remote government access via the internet. Hot pluggable
    - 4.3 m Cable Feature Code: 8998
  - USB host port (standard USB-A connector) for a USB cash drawer, etc. Hot pluggable
  - Powered USB host port (+12 VDC) for 2x20 VFD and LCD character displays. Not hot pluggable
    - 3.8m Powered USB Display cable Feature Code: 5570
    - 1.8m Powered USB Display cable Feature Code: 5572
    - 0.5m Powered USB Display cable Feature Code: 5575

## Operating environment

Item	Height (Rear)		Height (Front)		Width	Depth	
	CR Cover Closed	CR Cover Open	DI Cover Closed	DI Cover Open		DI Cover Closed	DI Cover Open
Model 2NF fiscal printer	213.7 mm (8.41 in.)	334.5 mm (13.17 in.)	154.0 mm (6.06 in.)	258.0 mm (10.16 in.)	201.5 mm (7.93 in.)	277.7 mm (10.93 in.)	397.5 mm (15.65 in.)

Weight: Model 2NF without paper: 5.43 kg (11.98 lbs)

Review the installation planning information for any product-specific installation requirements.

## Software requirements

### Operating system requirements

Windows™ POSReady 2009; POSReady 7, Windows 7 (32 and 64-bit)

- UPOS 1.13.7
  - OPOS V1.13.7 plus module updates
  - RS232 and USB OPOS Fiscal printer driver for fiscal printer POS function via Direct IO

- JavaPOS 1.13.7 plus module updates
- RS232 and USB JavaPOS Fiscal printer driver for fiscal printer POS function via Direct IO

#### 4690 OS

- V6R4 CSD 0E00
  - USB Fiscal printer driver includes fiscal protocol support
  - RS232 Fiscal printer driver - There is no specific RS232 "fiscal printer" driver in 4690OS. An RS232 fiscal printer can be supported on 4690OS via the generic RS232 driver; however, low-level fiscal printer protocol must be coded in the application program. The USB driver handles this protocol, it is recommended for attachment.

#### Linux™ (SUSE SLEPOS 11 SP3, SUSE SLED 11 SP3)

- JavaPOS V1.13.7
  - RS232 and USB JavaPOS Fiscal printer driver for fiscal printer POS function via Direct IO

DOS not supported

#### Diagnostics

- V7.3 via JavaPOS 1.13.7

#### Remote Management Agent (RMA)

- V3.1
- RS232 and USB via JavaPOS Fiscal printer driver V1.13.7, and later

All applications (including 4690OS GSA and SA support via user exits) are provided by third parties.

### **Compatibility**

The new SureMark printer Model 2NF uses the same power brick as existing 4610 nonfiscal printer Model 2NR. Neither the USB nor RS-232 interface cables are the same as those utilized on existing Toshiba fiscal printers in Turkey. Paper rolls that meet the specifications for existing 4610 printer Model 2NR may be used in this new model.

#### **Reuse of cables, I/O devices, and power adapters is shown below:**

Item	From Models Kxx/Gxx	From Model 1NF	From Models 2xR
EIA-232 communication cables	NO	NO	NO
USB terminal communication cables (standard A-B)	NO	n/a	NO
+24V Powered-USB communication cables	n/a	YES	NO
+24V power adapters (p/n 40N5050 or later)	YES	YES	YES
+24V power adapters (earlier than p/n 40N5050)	NO	NO	NO
USB "power-only" cables (+24V)	YES	YES	YES
+24V cash drawers (non-USB)	YES	YES	YES
+24V cash drawer cables (non-USB)	YES	YES	YES
USB LCD 2x20 display	YES	YES	YES
+12V powered-USB LCD display cables	n/a	YES	n/a
USB VFD 2x20 display (single-sided)	YES	YES	YES
USB VFD 2x20 display (two-sided)	YES	YES	YES
+12V powered-USB VFD display cables	n/a	YES	n/a

## **Limitations**

The receipt printing speed (80 lps) of Model 2NF is the maximum burst speed of the printer and might not always be achieved when using a fiscal application and driver to operate the printer (due to government-required printing restrictions).

## **Planning information**

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### **Customer responsibilities**

The client shall remove and replenish consumable supplies. Consumable supplies are limited to receipt paper rolls and ribbons.

The client is responsible for clearing paper jams (should they occur) and for performing diagnostics.

### **Cable orders**

RS-232, powered-USB, standard USB, and Ethernet cables are available for ordering via feature number. When attaching via RS-232, Ethernet or standard USB, a special power cable that provides printer power via connection to a powered USB port is available via feature number. Additionally, a power brick is available for use with either RS-232 or Standard USB connected printers when a plus power USB port is unavailable.

A power cord for the optional power supply is shipped with each power brick order.

## **Installability**

### **Supplies**

Thermal paper- Receipt media dimensions

The receipt media used in the thermal receipt station must meet the following requirements.

- Width: 79.5 +/-0.5 mm
- Thickness: 0.00225 +/-0.0003 inches
- Weight: 14.7 +/-0.8 lb (55 +/-3 gm/Sq. meter)
- BEKK smoothness: 400 +100/-50 seconds
- Stiffness (Gurley): MD (mg) 47 Max; CD (mg) 25 Max

The paper must be wound with the printing side facing out, with outer edge glued to prevent unraveling. The paper should not be attached to the core in any manner. There should be 5 - 7 feet of red stripe at the end of the roll. Paper tested and verified to meet these criteria are listed at

<http://www.toshibacommerce.com/education>

### **Notes:**

- POS-grade thermal receipt paper is recyclable.
- There are vast differences in customer environments; for optimal performance, Toshiba recommends that each user carry performance, Toshiba recommends that each user carry out field tests of a given printer and paper combination in your specific environment.

For customers who operate in countries where fiscal laws apply, be sure to use only those papers that meet the requirements of the tax authorities of your country for archiving tax-related data. Printer reliability and performance are directly related to the quality of the supplies used by the customer. Using only papers that are on the tested papers list will help to ensure that your printers will perform well over an extended period of time. Use of papers not included on

the tested papers list may result in a billable service call if printer failures are determined by Toshiba to be the result of using these papers.

Thermal paper with postprocessing, such as (but not limited to) preprinted watermarks, coupons, or advertisements printed on the front or back of the paper, is not tested by Toshiba. Some inks and printing processes will work acceptably, while others will not. Printer problems that are caused by supplies that include preprinting may result in a billable service call, regardless of the existence of a service contract.

### **Security, auditability, and control**

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The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

### **Global Technology Services**

Contact your Toshiba representative for the list of selected services available in your country, either as standard or customized offerings, for the efficient installation, implementation, and/or integration of this product.

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## **Terms and conditions**

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**Volume orders:** Contact your Toshiba representative.

### ***Warranty period***

Two years (Turkey only).

### ***Extended warranty service***

*4610 Model 2NF*

Toshiba On-Site Repair, 5 x 9 (Monday - Friday 09:00 a.m. - 6:00 p.m. except national/bank holidays), Next Business Day Response.

Toshiba will repair the failing machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the Toshiba machine. The area must be clean, well lit, and suitable for the purpose.

### ***Warranty service***

*4610 Model 2NF*

Toshiba On-Site Repair, 5 x 9 (Monday - Friday 9:00 a.m. - 6:00 p.m. except national/bank holidays), Next Business Day Response.

Toshiba will repair the failing machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the Toshiba machine. The area must be clean, well lit, and suitable for the purpose.

**Usage plan machine**

No

**Toshiba hourly service rate classification**

Two

When a type of service involves the exchange of a machine part, the replacement may not be new, but will be in good working order.

**Maintenance service offerings**

Model 2NF

Toshiba On-Site Repair (OSR) (24 hours a day, 7 days a week, next day response.

When a type of service involves the exchange of a machine part, the replacement may not be new, but will be in good working order.

**Field-installable features**

Yes

**Model conversions**

No

**Machine installation**

Customer setup. Customers are responsible for installation according to the instructions Toshiba provides with the machine.

**Graduated program license charges apply**

No

**Licensed Internal Code and Licensed Machine Code**

This product does not contain Licensed Internal Code or Licensed Machine Code.

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**Prices**

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For all local charges, contact your Toshiba representative.

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**Announcement countries**

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Only in the following European, Middle Eastern, and African countries: Turkey

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